

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An apparatus for intended use in charging particles in a particle mixture as part of a system for separating particles from a feedstream comprising a fluid flow including the particle mixture, comprising:

a chamber including an inlet for receiving the particle mixture and an outlet for discharging the particle mixture; [[and]]

a tribocharging rotor rotatably mounted in the chamber, the rotor having a generally non-permeable outer surface for contacting and frictionally charging the particles of the particle mixture;

an electric field in the chamber for enhancing the charging of the particles.

2. (Previously presented) The apparatus according to claim 1, wherein the rotor is non-circular in cross-section.

3. (Previously presented) The apparatus according to claim 1, wherein the chamber defines a generally annular space around an outer surface of the rotor for receiving the particle mixture.

4. (Original) The apparatus according to claim 1, wherein the outlet is positioned below and generally opposite the inlet.

5. (Previously Presented) The apparatus according to claim 1, further including a partition projecting into the chamber adjacent the rotor, said partition performing the dual function of preventing the particle mixture from prematurely entering the outlet in one direction and guiding the particle mixture to the outlet in the other direction.

6. (Original) The apparatus according to claim 5, wherein the partition is adjustable to vary the distance between an end of the partition and the rotor.

7. (Cancelled)

8. (Original) The apparatus according to claim 1, wherein the rotor rotates at a rotational speed of between about 1,200 and 10,000 revolutions per minute.

9. (Cancelled)

10. (Currently amended) The apparatus according to claim [[9]] 1, wherein the electric field is created by a variable voltage source having a first lead connected to the rotor and a second lead connected to a wall of the chamber.

11. (Previously presented) A particle separation system including a feedstream for delivering the particle mixture to the inlet of the apparatus of claim 1 and an electrostatic separator for receiving the particle mixture from the outlet and separating at least one species of particles from the particle mixture.

12 - 21. (Cancelled)

22. (Currently amended) An apparatus for intended use in charging particles in a particle mixture as part of a system for separating particles from a fluid flow including the particle mixture, comprising:

a wall forming a chamber including an inlet for receiving the particle mixture and an outlet for discharging the particle mixture; and

rotatable means for frictionally charging the particles of the particle mixture in the chamber; and

means for forming an electric field in the chamber.

23. (Previously presented) The apparatus according to claim 22, wherein the rotatable means for frictionally charging the particles of the particle mixture in the chamber comprises a rotor rotatably mounted in the chamber, the rotor having a generally non-permeable outer surface.

24. (Previously presented) The apparatus according to claim 22, further including a partition projecting into the chamber adjacent the means for frictionally charging the particle mixture in the chamber, said partition performing the dual function of preventing the particle mixture from prematurely entering the outlet in one direction and guiding the particle mixture to the outlet in the other direction.

25. (Original) The apparatus according to claim 22, wherein the partition is adjustable to vary the distance between an end of the partition and the rotatable means for frictionally charging the particles in the chamber.

26. (Previously presented) The apparatus according to claim 22, further including a motor for rotating the rotatable means for frictionally charging the particles of the particle mixture.

27. (Cancelled)

28. (Currently amended) The apparatus according to claim[[s 27]] 22, wherein the means for forming the electric field in the chamber comprises [[is created by]] a variable voltage source having a first lead connected to the means for frictionally charging the particles in the chamber and a second lead connected to [[a]] the wall of the chamber.

29. (Previously presented) A particle separation system including a feedstream for delivering the particle mixture to the inlet of the apparatus of claim 22 and an electrostatic separator for receiving the particle mixture from the outlet and separating at least one species of particles from the particle mixture.

30. (Currently Amended) A system for intended use in separating particles from a fluid flow, comprising:

 a feedstream including the fluid flow and a particle mixture comprising at least two species of particles;

 a wall defining a chamber including an inlet for receiving the feedstream including the particle mixture and an outlet for discharging the particle mixture;

 a rotor rotatably mounted in the chamber, the rotor having a generally non-permeable outer surface for contacting and assisting in charging the particles in the particle mixture; [[and]]

a first electric field in the chamber for enhancing the charging of the particles; and

a separator downstream of the chamber outlet for separating at least one species of the charged particles from the particle mixture in the fluid flow.

31. (Cancelled)

32. (Currently Amended) The apparatus of claim 30, ~~further including an outer wall defining the chamber, and wherein an outer surface of the rotor matches the inner surface of the outer wall wherein the separator includes a second electric field.~~

33. (Currently amended) In a particle separation system including an electrostatic separator for separating one or more species of particles from a particle mixture included in a feed stream with a fluid flow, the improvement comprising a chamber including an inlet for receiving the feed stream including the particle mixture and an outlet for discharging the particle mixture to the electrostatic separator and a rotor rotatably mounted in the chamber, the rotor having a generally non-permeable outer surface for contacting and frictionally charging the particles in the particle mixture prior to delivery of the particle mixture to the electrostatic separator, and further including an electric field in the chamber.

34. (new) The apparatus of claim 1, wherein the outer surface of the rotor is smooth and continuous.

35. (new) The apparatus of claim 1, wherein the rotor comprises a cylinder.

36. (new) The apparatus of claim 1, wherein the rotor is mounted to spin about a generally horizontal axis.

37. (new) The apparatus of claim 1, wherein the rotor does not include any external blades.